EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	34	((reed adj solomon)(turbo adj encod$4) (convolution$4 adj encod$4)) near4 (symbol adj (block group))	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/28 11:19
L2	2603	((reed adj solomon)(turbo adj encod$4) (convolution$4 adj encod$4))same symbol same (block group)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/28 11:20
L3	166	2 same interleav$4 same walsh	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/28 11:20
L4	164	3 not 1	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/28 11:21
L5	0	subband same 4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/28 12:21
L6	18	("5062105" | "5210771" | "5471497" | "5479447" | "5500856" | "5521922" | "5586170" | "5590156" | "5602833" | "5623485" | "5640385" | "5666655" | "5793757" | "5796722" | "5896368" | "5898927" | "6005893" | "6173007").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2006/06/28 11:37
L7	0	subband same 4	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2006/06/28 12:21
L8	0	("6810030").URPN.	USPAT	OR	ON	2006/06/28 12:24

US-PAT-NO: 6865232

DOCUMENT-IDENTIFIER: US 6865232 B1

TITLE: Multi-carrier transmission systems

Detailed Description Text - DETX (241):

Reed-Solomon codes have the drawback that they are primarily burst error correcting over a small number of bits (usually eight), a so called symbol. Burst errors from impulse noise will mostly introduce a single bit error in some of the symbols. To use the **advantage of Reed Solomon** codes, the most error prone bits have to be concentrated in one, or a few, of the Reed-Solomon symbols.

DOCUMENT-IDENTIFIER: US 20060107192 A1

TITLE: Hybrid automatic repeat request system and method

Description of Disclosure - DETX (43):

[0068] The BER of NSC codes is lower, i.e. better, than that of a systematic code with the same memory M at high SNRs. However, at low SNRs, the opposite is true. Turbo codes use RSC encoders. since RSC codes can perform better than the best NSC codes at any SNR for high code rates. Additionally, in the case of a frame of input data with weight 1 (i.e., only one bit is a 1, all the rest are 0), an NSC encoder output would have a weight of at most M. However, the output of the RSC code can potentially be of much higher weight, due to its IIR structure. The RSC encoder is very similar to a shift register based pseudo-random number generator, with the input data as a sort of initial seed. In this interpretation, we have two random number generators in the PCCC structure 20. The presence of the interleaver 26 ensures that the seeds for both random number generators is different. The fact that each random number generator has a different seed makes it very unlikely that the output of both encoders, and hence the codewords, are of low weight. The performance of a code is closely related to its minimum distance, which is the weight of its lowest weight codeword, excluding the all zeros codeword. This low probability of having low weight codewords is the **reason for the excellent performance of turbo codes**.

US-PAT-NO: 6298463

DOCUMENT-IDENTIFIER: US 6298463 B1

TITLE: Parallel concatenated convolutional coding

Brief Summary Text - BSTX (5):

While coding using PCCCs or **turbo codes can provide substantial advantages,** there remains a need to provide an optimum coding for the best possible performance in respect of a variety of factors such as BER, spectral efficiency, and decoder complexity.

DERWENT-ACC-NO: 2000-628009

DERWENT-WEEK: 200060

TITLE: Trellis codes decoding for power limited communication channel, involves computing posteriori state transition probabilities per recursion of received component codeword, if forward and backward recursions coincide

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Basic Abstract Text - ABTX (4):

ADVANTAGE - The turbo codes offer significant coding gain for power limited communication channel. As forward and reverse recursions are performed simultaneously, the decoding of trellis codes is improved. As the parallel computation allows for calculation of posteriori transition probabilities in same time interval, that for forward and reverse recursions, decoding latency and required memory are reduced.

US-PAT-NO: 6536001

DOCUMENT-IDENTIFIER: US 6536001 B1

TITLE: Circuit and method for convolutional interleaving using a single modulo operation

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Detailed Description Text - DETX (18):

As further illustrated in FIG. 4, both the fast and interleaved data paths are independently applied to Reed-Solomon encoders 64 as shown in FEC 150. Reed-Solomon encoders 64 independently generate N symbol codewords comprising K data symbols of S bits each with N-K parity symbols of S bits each added thereto. The total number of parity symbols is equal to 2T, where 2T=N-K. The N symbol codewords are a systematic code because the encoded data is left unchanged and the parity symbols are appended. **Reed-Solomon codes provide a significant advantage** in that they can correct up to T symbol errors in the N symbol codeword. Given a symbol size S (the bit width per symbol), the maximum codeword length N for a Reed-Solomon code is N=2.sup.S -1. Generally, the amount of processing power required to encode and decode Reed-Solomon codes is related to the number of parity symbols per N symbol codeword. A large value for T translates into the ability to correct a large number of errors in the received N symbol codeword, but correspondingly requires more computational power than if T were of a smaller magnitude.